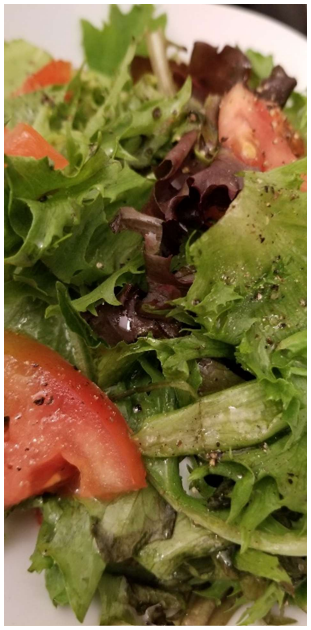
Protonic Salad

Unitarian Universalist Church of Olinda
Rev. Rodrigo Emilio Solano-Quesnel
23 January, 2022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Early in the pandemic, one of the possible symptoms of infection that was announced was the loss of the sense of smell or taste. And while this kind of symptom may not sound as scary as shortness of breath, fever, pneumonia, or hospitalization, it's also not trivial, especially if it happens for a prolonged time. Of course, there are a number of conditions that can lead to a loss of these senses, and it can really be a significant loss for some people.

It also raises many interesting questions about how we interact with our surroundings, as well as specific questions about what exactly our senses are, and how many do we have? And even if we focus specifically on one sense, like taste… what exactly is it, and how many tastes can we perceive?

When many of us were growing up, some of these answers were easy – five senses, and in the sense of taste, it was four: salty, sweet, sour, and bitter.

But by now, many of us have gotten the memo that there's actually a fifth recognized taste: umami, often translated as "savoury", or sometimes as "deliciousness" or even "meaty". Even after accepting these five, there is ongoing debate on whether there are six, seven, eight, or even more identifiable tastes.

And in terms of our senses, for some time now, it has been understood that they number more than five. Our *vestibular* sense, for instance, is one such "sixth sense", which is our ability to find equilibrium… to balance, and the ability to feel acceleration is related to that, as these are

both perceived by our inner ear, even though they are not related to sound.

There's sometimes debate about other senses, such as the ability to perceive pain, and temperature, as well as internal senses (called *interoceptions*), like hunger, which aren't so much about our surroundings, but still use our nervous system to convey information to our body.

The boundaries of how we define our senses, and the specifics of what those senses let us sense, can sometimes get fuzzy, and it is worth leaning into that fuzziness, as we explore how we get to know the world outside ourselves… as well as the world within ourselves, that we may not always be conscious about, yet it guides our behaviour and actions. The senses, interoceptions, or whatever you want to call them, are our doors of perception.

The science educator Steve Mould, makes an interesting observation about our sense of taste, and what each of the currently recognized tastes are. In one of his videos, he describes our tastes as *chemical detection systems*. And each of the chemicals that we detect with our tastes play a literally vital part in our survival. Sweetness allows us to find sources of energy in simple carbohydrates, like sugar. Saltiness allows us to get a certain balance of electrolytes. Umami can help us find sources of protein… sometimes – it helps us find glutamates, which can often come with protein, which is a start.

Indeed, the role and effectiveness of our tastes can get a bit fuzzy. It's probable that our sense of sourness helps us determine the ripeness of fruits, by gauging their acidity. And Steve Mould describes bitterness broadly as a poison detection system.

But wait, some of us eat or drink bitter stuff all the time – I do it most mornings with a cup of coffee – and we don't recoil in disgust or fear that we're poisoning ourselves.

As Steve Mould remarks, many of our tastes can be "fooled" to an extent, in the sense that they don't actually detect what it is we're looking for. We can taste sweet things that give us little or no energy – in fact, we often due that *on purpose*. We can taste salty things that don't have the amount of sodium we think we're getting, and we often due that *on purpose*. Often, we get umami stuff, because we simply like it, regardless of the protein content of the food – or food-like matter – that we're taking.

And many of us actively seek out things that one part of our body is telling us might be poisonous, though we also know that they often are not. Mould suggests that we've learned that certain things, such as broccoli, are good for us, despite the bitterness they have, so another part of us rationalizes that the bitterness is inconsequential. Sometimes, we might even come to like it, as is the case with things like chocolate, coffee, and beer.

And Mould hypothesizes that the pleasurable sensations we get from the psychoactive substances in these foods and drinks overrides the bitterness, or might even help us associate the bitterness with the pleasure of eating and drinking these things. One of the most bitter, yet harmless, substances we can ingest, is quinine, which was used as a tonic against malaria at some point, and now some of us seek it out *on purpose*, in smaller doses (in tonic water).

Perhaps the most mind-blowing taste might be sourness, because the mechanism our tastebuds use to detect acidity is thanks to one of the signature features of acids – their tendency to give out positive hydrogen ions. And as Mould explains, since hydrogen is made up of only one proton and one electron, and a positive hydrogen ion is missing one electron, we are effectively tasting protons when we eat something sour – "protons taste sour" (Steve Mould). Every time we dress a salad, we are seasoning it with a generous helping of protons for our tongue to detect.

What I find rather powerful about this perspective is that it reminds me of just what senses really are – our ability to interact and connect with the world. And our doors of perception affect our ability to respond to this world as it interacts with us.

Not only is it amazing that we can directly taste a subatomic particle, with no specialty equipment beyond a salad bowl and some vinegar (no particle accelerators required), but we can also make use of these flavours to affect our diets and our health, sometimes for good (in the interest of our well-being), and sometimes… for ill (quite literally).

Artificial and low-calorie sweeteners and low-sodium salt are one way in which we purposefully "hack" our sense of taste to reduce the adverse effects that *too much* sugar and salt can have on our bodies. Let's remember that both sugar and salt are *essential* nutrients that we regularly require to survive. We evolved to *like* these things so that we could get enough of them, especially when they were hard to come by.

But in our current industrialized society, these things have become more than easy to come by – too easy – so easy in fact, that we often have them without realizing it. And so, we've learned to go out of our way to avoid them, at least some of the time, sometimes getting some help in keeping our cravings in check, with substances that give us similar sensations.

And we've learned to tolerate or even like some bitter foods and drinks, because we've learned that they are not nearly as poisonous as their taste might imply, or might even be especially good for us.

And then there's umami, which helped our ancestors detect and get protein. But umami doesn't always come with protein, and that can be helpful, since protein is also easier to come by nowadays, including from things other than meat. And even though some umami foods, like tomatoes, mushrooms, and seaweed don't have much protein, we're still getting other good things from them.

But umami can also be industrially added to foods in substances like monosodium glutamate, or MSG. A fuller discussion on the health effects of MSG might perhaps be a topic for another time or place, although it's been established that it's not nearly as dangerous as popular lore has made it out to be. As internet cook and food commentator Adam Ragusea (who I've invoked here before) observes, in and of itself, the substance MSG is quite harmless to most people.

Food historian Dr. Sarah Tracey, from the University of Toronto, observes that the greater danger of MSG might be that it can taste so good, with very little nutrients, especially when added to other foods that don't do much for us. Things like, food-inspired products, like packaged snacks. When added to the wrong things, MSG and other flavour enhancers can make "food" that is terrible for us be irresistible, and that's perhaps its greatest danger.

There is one saving grace in contemplating junk foods like these. They are a lesson in interacting with the senses. It's not just one ingredient that makes them so irresistible, but a very precise science that mixes many experiences. There is saltiness, sweetness, sourness, and umami all together. Not only that, there is sight involved, appealing shapes and colours that beckon to us. And there is also sound. The tastes, aromas, sights and sounds, all come together into one satisfying experience.

But junk food does not have a monopoly on these experiences, healthy and wholesome foods can have those too – it just takes a bit more forethought, more consideration, more intentionality. Healthy foods can have all the tastes, look good, even sound good. And when we learn, or teach ourselves, to bring that satisfying experience to our food, or anything else that we wish to do which is good for us, then our senses can continue their task of guiding us toward healthier living.

My friends, when we explore the roots and routes that the doors of perception offer, they may continue to serve us into more wholesome lives.

My friends, when we consider the ways in which the doors of perception may trick us and fool us, we may be better prepared to proceed with caution.

My friends, when we are open to our senses and seek to get deeper in touch with them, we may make of life a richer experience.

So may it be,
In optimism and grace,

Amen

Suggested Hymns:

Opening Hymn #165 When Windows That Are Black and Cold
Words: Rachel Bates, used by perm. of Hutchinson, one of the publishers in the Random Century Group
Music: English Melody, © 1931 Oxford University Press, adapt. and harm. by Ralph Vaughan Williams, 1872-1958
DANBY L.M.

Hymn #132 Bright Those Jewels
~)-| Words: Hosea Ballou II, 1796-1852
Music: Medieval French melody, harmony by Richard Redhead, 1820-1901
ORIENTIS PARTIBUS 7.7.7.7.

Closing Hymn #346 Come, Sing a Song with Me
Words & music: Carolyn McDade, 1935- , © 1976 Surtsey Publishing Co.
A ROSE IN WINTER Irregular